Skin cancer: 9 things to know to lower your risk

From cover-ups to caffeine, here are some tips for protecting your skin during the summer and all year long

July 2, 2015 | By Dr. Rachel Tompa / Fred Hutch News Service

The how-to's of skin cancer prevention haven't changed much in recent years — avoid too much ultraviolet light via sun or tanning beds and take care not to burn or tan — but that message is clearly not reaching enough people, according to Fred Hutch researchers.
Stock photo by FeaturePics

With climbing rates of skin cancer in the U.S., including the deadly form, melanoma, it's time to get serious about prevention, experts say.

The how-to's haven't changed much in recent years — avoid too much ultraviolet light via sun or tanning beds and take care not to burn or tan — but that message is clearly not reaching enough people, said Fred Hutchinson Cancer Research Center cancer prevention researcher **Dr. Margaret Madeleine**.

A recent **study** by researchers from the Centers for Disease Control and Prevention found that nearly 5 million U.S. adults are treated every year for all types of skin cancer to the tune of $8.1 billion. Melanoma rates have doubled in this country since 1982, according to a CDC **report** earlier this month. The majority of these cancer cases are preventable.

Last summer, the U.S. Surgeon General issued a **call to action** to prevent this too-common disease: Non-melanoma skin cancers, chiefly basal cell carcinoma and squamous cell carcinoma, are the most common cancers in this country by far, afflicting an estimated 4.3 million people per year.

That **report**, the first time the surgeon general had come out against sunbathing and tanning beds, is a great step, Madeleine said. But we need to do more.

"The message needs to be louder," Madeleine said. "There are some really serious public health tactics that could be used."

For example, tanning beds don't carry as high a tax rate as cigarettes do, Madeleine said. We could also be teaching kids about skin cancer prevention in schools and doing more to combat the pervasive idea among teenagers and young adults that indoor tanning is harmless.

Nine things to know to reduce your skin cancer risk right now

In an ideal world, everyone would know (and live by) the following skin cancer prevention tips and facts, according to Madeleine and other prevention advocates, including the **American Cancer Society** and the **Skin Cancer Foundation**:

Use sunscreen — the right way. Only a third of adults report typically using sunscreen, according to a 2008 **CDC survey**. But even if you use it daily, there's more you need to know. Choose a product labeled "broad spectrum," which protects against UVA and UVB rays. Both can cause cancer, Madeleine said. Go for a sun protection factor, or SPF,of at least 15. Higher SPFs do offer more protection, but the increased protection gets smaller the higher you go. Follow the directions and don't skimp — adults should use about one ounce, or about a shot glass-full, to cover exposed limbs, neck and face (more if you're wearing just a bathing suit). Check the label for how often to reapply; generally, at least every two

hours or every 80 minutes if swimming. There are a number of apps and gadgets that can help people remember to reapply or assess their UV exposure; The New York Times recently **touted** a few.

Cover it up. Wear tightly woven clothing and a wide-brim hat to protect skin. Some clothes are advertised as adding extra protection against UV rays, but regular clothes do a pretty good job, so people shouldn't feel like they need to buy special gear, Madeleine said.

Seek shade. It's not just about clothes and sunscreen, "but also, look for the trees when you can," Madeleine said.

Avoid tanning beds. The FDA recently gave tanning beds and their ilk a **black box warning** that they should not be used by anyone under the age of 18. They're not a good idea for anyone, but young people are especially vulnerable to increased melanoma risk with early UV exposure.

If you've never burned, you can still get skin cancer. Severe sunburns do increase the risk of skin cancer, especially melanoma, but tanning can damage skin too. "I think people don't hear that tanning, freckles and sunburns are all signs of sun damage that can accumulate, increasing lifetime risk of skin cancer," Madeleine said.

It's not just fair-skinned people who need to worry. People with light-colored skin, hair and eyes are at highest risk of skin cancer, but that doesn't mean everyone else is off the hook, Madeleine said. Anyone with skin susceptible to burning or tanning is still at increased risk of skin cancer and should avoid UV damage.

You're not protected just because it's cloudy. Check the **UV Index** on a site like the Environmental Protection Agency's **SunWise**, and cover up and wear sunscreen when the index is high, even on gray days.

It's never too late to stop tanning and burning. Even with a lifetime of excess UV exposure, people can still reduce their risk by starting to practice the tips above today. It's not only cumulative exposure but current exposure that increases one's risk, said Madeleine. The researcher herself had horrible sun protection habits as a child, growing up in Los Angeles and swimming in the ocean every day in the summer, but these days she covers up in the Seattle sun (and clouds).

Protect — and teach — your kids. Madeleine wishes sun protection was taught in all of our schools, but until then, parents have to do what they can to stress the importance of sunscreen and covering up. "We need to make it somehow cool to not have a tan at your prom," she said. "I'd like to see young women listen to what Taylor Swift has said about **tanning**."

Look for that beachside café

In addition to the tips above, it turns out your daily (or more) cup of coffee could help protect you from skin cancer. There's a growing body of evidence that caffeine lowers the risk of melanoma and non-melanoma skin cancers — although that doesn't excuse caffeine junkies from wearing sunscreen.

Dr. Paul Nghiem, a dermatologist at Seattle Cancer Care Alliance, Fred Hutch's treatment arm, and a skin cancer researcher at the University of Washington and the Hutch, studies the basic biology behind how our cells respond to UV light. The sun's rays trigger extensive damage to our DNA, but it's actually our cells' attempt to grow after damage that leads to cancer. Most of the time, the cells get it right and fix the altered DNA, but occasionally cells gear up to divide before that repair is complete and mutations result that trigger out-of-control cell growth and, eventually, cancer.

Nghiem and his research team found that skin cancer cells rely on a protein known as ATR to support their rampant growth, and they hypothesized that blocking ATR from working might stem the cancer at its roots. At the same time, the late cancer researcher Dr. Allan Conney of Rutgers University had discovered that caffeine protected against skin cancer in mice, but he didn't know why.

"So we put those things together," Nghiem said. Conney and Nghiem started collaborating and found that caffeine works by shutting down ATR, effectively killing skin cancer cells. Later studies looking at caffeine drinkers showed that people who drink coffee and other caffeinated drinks indeed have a lower risk of skin cancer. And the more coffee you drink, the lower your risk — one **study** found that each daily cup of caffeinated coffee corresponds to a nearly 5 percent drop in lifetime risk of non-melanoma skin cancer.

Recently, Nghiem and Dr. Masaoki Kawasumi, a skin cancer researcher in Nghiem's laboratory, have been exploring the timing of caffeine's protective effect. Using a mouse model of **squamous cell carcinoma**, the second most common type of skin cancer, they found that caffeine applied immediately after UV exposure helps stem the light's damage while caffeine exposure weeks later does not.

"The impact is that coffee at the beach could prevent skin cancers, rather than coffee in the office or long after UV," Kawasumi said.

Dr. Rachel Tompa is a staff writer at Fred Hutchinson Cancer Research Center. She joined Fred Hutch in 2009 as an editor working with infectious disease researchers and has since written about topics ranging from nanotechnology to global health. She has a Ph.D. in molecular biology from

the University of California, San Francisco and a certificate in science writing from the University of California, Santa Cruz. Reach her at rtompa@fredhutch.org.

Are you interested in reprinting or republishing this story? Be our guest! We want to help connect people with the information they need. We just ask that you link back to the original article, preserve the author's byline and refrain from making edits that alter the original context. Questions? Email editor Linda Dahlstrom at ldahlstr@fredhutch.org.

TAGS: **Margaret Madeleine, Melanoma, Public Health Sciences, skin cancer, squamous cell carcinoma, tanning beds**

Similar stories

Tanning bed use declines, new study shows

Rate of use has dipped slightly but 10 million Americans are still using tanning salons regularly

July 1, 2015

Tanning beds get a black label warning

Citing skin cancer risks, new FDA regulations caution against use by teens

May 29, 2014

Surgeon general: Stop sunbathing and get out of the tanning bed

New report issues 'call to action' in wake of rising skin cancer rates

July 29, 2014

FRED HUTCH
40 YEARS OF CURES 1975–2015

Fred Hutchinson Cancer Research Center | 1100 Fairview Ave. N., Seattle, WA 98109